dilatation and surgical procedures can be used later if the dilatation fails.

The disadvantages of transluminal dilatation are also several: Passage of the guide wire can lift intimal flaps which then cause occlusion. The guide wire can perforate the arterial wall. The balloon can become impaled on an intimal flap. Fragments of a fractured atherosclerotic plaque can embolize distally. And, finally, long-term results with transluminal dilatation in this country are still unknown.

Nonetheless, the incidence of complications is low enough so that transluminal dilatation may be offered to patients who are poor surgical candidates or, on a trial basis, to any patient who has a lesion that is short and appears favorable for dilatation. Dilatation of superficial femoral and iliac artery lesions has given good long-term results. Dilatation of renal artery lesions has given good short-term results with long-term results still unknown.

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Coronary Heart Operations

SURGICAL MANAGEMENT is recommended for selected patients with coronary heart disease who have myocardial ischemia, mechanical complications of acute myocardial infarction, or medically intractable, symptomatic, ventricular tachyarrhythmias.

Coronary artery bypass is a physiologically effective means of increasing myocardial blood flow. This procedure is applied to patients with significant obstruction (75 percent or greater cross-sectional area) of one or more major coronary arteries who meet clinical or laboratory criteria for important myocardial ischemia. Prime surgical candidates are patients whose anginal symptoms are difficult to control medically or who, on noninvasive testing (exercise electrocardiography or thallium scintigraphy), have myocardial ischemia at low exercise levels. Because survival in ischemic heart disease is inversely related to the extent of coronary atherosclerosis and because it has been shown that patients with extensive coronary artery obstruction live longer when managed surgically, an operation should be considered in such patients even when symptoms are moderately well controlled.

Mechanical complications of myocardial infarction include mitral valvular regurgitation, ventricular septal rupture, ventricular wall rupture and left ventricular aneurysm. These commonly result in severe circulatory compromise and are treated by mitral valve replacement, closure of ventricular septal defect, infarctectomy and aneurysmectomy, respectively. When cardiogenic shock is present circulatory support with intra-aortic balloon pumping is a beneficial adjunct to these procedures.

A promising new development is the surgical management of patients with ventricular tachycardia secondary to previous myocardial infarction. Recent studies suggest that intraoperative epicardial and endocardial mapping using multiple electrode probes is effective in precise localization of arrhythmogenic foci. Patients with symptomatic, medically refractory, ventricular tachyarrhythmias may benefit from surgical excision of these foci. It has been shown that the area of delayed conduction thought to be critical for reentrant ventricular tachycardia can be localized in the border between the aneurysm and normal muscle. These areas are not usually removed with standard aneurysmectomy. Intraoperative localization followed by subendocardial resection combined with aneurysmectomy appears to provide better antiarrhythmic management than aneurysmectomy alone.

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Amputation

THE LATEST ADVANCE in lower extremity amputation for arterial occlusive disease is the concept of a team approach for optimum patient management. The team consists of a surgeon, radiologist, prosthetist, physical therapist and social worker. The surgeon initially evaluates the patient and develops a data base indicative of the patient's overall health status. In addition, the surgeon will evaluate the extent of the ischemic process